

REMARKS

These remarks are in response to the Office Action mailed June 18, 2007. Applicants respectfully request entry of amendments to claims 1, 15, 16, and 18-20. Claims 21-75 have been withdrawn. Claim 17 has been canceled, without prejudice or disclaimer. Subsequent to the entry of the present amendment, claims 1-16 and 18-20 will be pending and at issue. These amendments and additions are at least supported by the original claims, and thus, add no new matter.

Applicants submit that the pending claims are in condition for allowance and respectfully request that the amended claims be entered.

Rejection Under 35 U.S.C. §112, Second Paragraph

Claims 15-20 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Applicants respectfully traverse the rejection as it applies to the pending claims.

Specifically, the Office Action alleges that claims 15 and 16, which recite “magnesium” depend from claim 1, which recites “manganese”. Without acquiescing to the reasoning offered in the Office Action, in order to expedite prosecution toward allowance, Applicants have amended claims 15 and 16 to recite “manganese” for previously recited “magnesium,” thus, rendering the rejection moot.

The Office Action further states that claim 17 recites “comprises detecting altered reverse transcriptase activity...” as a method step, which is allegedly redundant. Without acquiescing to the reasoning offered by the Office Action, in order to expedite prosecution toward allowance, Applicants have canceled claim 17, thus, the rejection is rendered moot. Applicants have also amended claim 1 to recite a process step to clarify that measurement of altered reverse transcriptase activity is accomplished via detection of altered manganese ion transport. Applicants respectfully submit that the skilled artisan would understand the metes and bounds of the claimed invention in light of the amended claims. Accordingly, Applicants respectfully request withdrawal of the rejection.

Rejections under 35 U.S.C. §102

Claims 1-4, 6, 7, 10, 11 and 13-16 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Wei et al., (*J. Biol. Chem.*, August 4, 2000, hereafter “Wei”) in light of Supek et al. (*PNAS*, May 1996). Applicants respectfully traverse the rejection as it applies to the claims.

To anticipate, a single reference must inherently or expressly teach each and every element of claimed invention. *In re Spada*, 15 USPQ2d 1655 (Fed Cir. 1990); and *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP § 2131.

Specifically, the Examiner alleges that Wei teaches a method of studying mutants of the Pmr1p calcium/manganese transporter in yeast. The Office Action further alleges that although the yeast cells in Wei have Pmr1p knocked out, in light of Supek, the yeast cells of Wei still read upon a cell expressing a divalent cation transporter as recited in claim 1. Applicants respectfully submit that Wei fails to teach each and every element of the claimed invention. The present claims recite a method of identifying agents which modulate the activity of reverse transcriptase, and as Wei does not teach or suggest measuring reverse transcriptase activity as a positive process step, the reference does not teach or suggest a method of identifying an agent that modulates reverse transcriptase as presently claimed. Thus, because Wei fails to teach each and every element of the claimed invention, the standard for anticipation has not been met.

For these reasons, Applicants respectfully request withdrawal of the rejection.

Claims 1, 3-6, 8-10, 14 and 15 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Aussel et al., (*Biochem. J.* 1996, hereafter “Aussel”) in light of Poulsen et al., (*Biochem. J.*, 1995) and Van Balen et al. (*Biochem. Biophys. Acta*, 2004). Applicants respectfully traverse the rejection as it applies to the claims.

To anticipate, a single reference must inherently or expressly teach each and every element of claimed invention. *In re Spada*, 15 USPQ2d 1655 (Fed Cir. 1990); and *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). MPEP § 2131.

Specifically, the Office Action alleges that Aussel teaches a method of inhibiting the divalent cation transport with La^{3+} , which the Examiner alleges, can be used to block Mn^{2+} transport. Applicants respectfully submit that Aussel fails to teach each and every element of the claimed invention. The present claims recite a method of identifying agents which modulate the activity of reverse transcriptase, and as Aussel does not teach or suggest measuring reverse transcriptase activity as a positive process step, the reference does not teach or suggest a method of identifying an agent that modulates reverse transcriptase as presently claimed. Thus, because Aussel fails to teach each and every element of the claimed invention, the standard for anticipation has not been met.

For these reasons, Applicants respectfully request withdrawal of the rejection.

Rejection under 35 U.S.C. §103(a)

Claims 1, 3-6, 8-10 and 14-16 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Aussel in view of Weed et al. (*J. General Physiol*, 1960, hereafter "Weed"). Applicants respectfully traverse the rejection as it applies to the pending claims.

Applicants submit that because the cited references do not teach all the claim limitations, one of skill in the art would not be motivated to combine the reference teachings.

The Office Action alleges, in pertinent part, that Aussel is silent with respect to teaching the use radiometric or polarographic methods to measure Mn^{2+} transport. The Action then provides Weed to cure the deficiency identified in the primary reference. However, both Aussel and Weed are completely silent with respect to reverse transcriptase, and thus, cannot teach or suggest using reverse transcriptase activity to measure Mn^{2+} transport.

It is axiomatic that Applicants' disclosure cannot be used as a "blueprint" to reconstruct, by hindsight, Applicants' claim. See, e.g., *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985). Since the teachings of Aussel would not result in a method of identifying an agent that modulates reverse transcriptase as claimed when combined with the teachings of Weed, one of skill in the art would not have an expectation of success because the

invention as claimed could not be achieved in view of such teachings. Therefore, one of skill in the art would not be motivated to combine such teachings.

Applicants submit that because there is no reasonable expectation of successfully achieving the invention as claimed, there is no motivation to combine the cited references, thus, no *prima facie* case for obviousness exists. For these reasons, Applicants respectfully request that the rejection, including as it might be applied against the amended claims, be withdrawn.

In re Application of:
Boeke and Bolton
Application No.: 10/507,252
Filed: January 28, 2005
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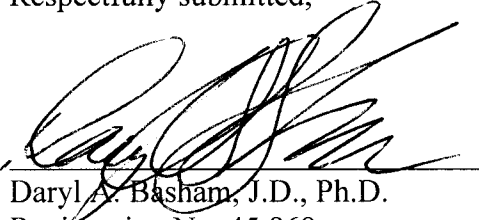
PATENT
Atty Docket No.: JHU1870-1

Conclusion

Applicants submit that pending claims 1-16 and 18-20 are in condition for allowance. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this submission.

No fee is deemed necessary with the filing of this paper. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified docket number.

Respectfully submitted,



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